TRANSACTIONS

OF THE

NEW YORK SURGICAL SOCIETY.

Stated Meeting, January 27, 1904.

GEORGE WOOLSEY, M.D., in the Chair.

RESECTION OF STOMACH FOR BENIGN PYLORIC OBSTRUCTION: GASTRODUODENOSTOMY.

DR. WILLY MEYER presented a woman, fifty-three years old, upon whom operation was done by Dr. Meyer ten years ago at the New York Post-Graduate Hospital. It was the first case in which he had employed the Murphy button, and one of the first cases in which the button had been used in this city. At the time of the operation the patient complained of gastric symptoms dating back four years, and her condition was such that a malignant growth of the stomach was suspected. Below the xiphoid cartilage there was a distinctly palpable tumor about the size of a small apple; it was freely movable. Upon exposing the stomach wall, two small additional tumors were recognized, and this strengthened the view that the case was malignant in character. Acting upon this supposition, a very free resection of the stomach was made. The wound in the stomach was closed with two rows of sutures in the usual way, and a posterior gastroduodenostomy with the Murphy button (end to side) completed the operation. This operation was done some time before Kocher had published his method. The button was passed on the twenty-first day, and the patient made an uninterrupted recovery. The supposed cancerous growth was submitted to a pathologist, who reported that there was no suspicion of carcinoma, and that the tumor was composed of scar tissue, evidently on the base of an old ulceration. The benign character of the growth was verified by the subsequent

history of the case. The patient rapidly improved after the operation, and now, after ten years had elapsed, she was in perfect health and able to take and digest any kind of food. The case nicely illustrates that such a lateral anastomosis, perfected with Murphy's button, does not contract; a fact well known to-day, but feared by many in the early time of using the device.

OSTEOCHONDROMA OF THE HUMERUS.

DR. L. A. STIMSON presented a woman, fifty-nine years of age, who in September, 1903, complained of a painful swelling involving the upper part of the left arm. The pain had existed about two years, the swelling coming on later and rapidly increasing during the past few months.

Examination showed a well-defined swelling involving the upper posterior and inner aspect of the left humerus. It was apparently an osteosarcoma, and the X-rays showed bony trabeculæ traversing the growth in many directions. The soft parts were freely movable above the tumor.

As the case seemed a favorable one for the purpose, it was proposed that, instead of sacrificing the entire limb, the upper portion of the humerus should be resected. This operation was done on September 22, 1903. In order to secure perfect access to the growth and insure its complete removal, it was approached posteriorly through a longitudinal incision, supplemented by a horizontal one close below the acromion. The tumor was completely encapsulated and had pushed away the surrounding soft parts without invading them. The humerus was divided some distance below the lower margin of the growth, the section of bone removed comprising all above the lower margin of the insertion of the pectoralis major. The wound healed *per primam*, and the woman was discharged on the twelfth day.

A microscopic examination of the growth showed that it was composed largely of cartilaginous tissue, that is, an osteochondroma, with some sarcomatous elements.

The patient had since regained the free use of her arm. She was able to take a daily horseback ride and could lift objects of considerable weight. In fact, she could perform all movements excepting, of course, those that required a fulcrum at the shoulder-joint. Sensation was somewhat impaired over a small area in the region of the acromion.

In reply to a question as to whether he would be willing to repeat this conservative operation in dealing with tumors of a more malignant type, particularly sarcomata, Dr. Stimson said that he had had the operation in mind for some years, but this was the first time he had had an opportunity to resort to it. He believed it was applicable to cases of similar growths at other points in the bone, but in no instance should the advantage of saving the limb be purchased at the cost of a greater probability of recurrence. From an investigation he made some years ago, he formed the opinion that a recurrence in these cases was much more commonly observed at a distance from the original lesion—in the lungs, brain, etc.—than *in situ*.

Dr. Arthur L. Fisk said that in March, 1898, he read a paper before the Hospital Graduates' Club, in which he reported three cases of amputation at the shoulder for sarcoma of the humerus. One of these was an osteosarcoma of the shaft of the humerus, another was a primary melanotic sarcoma of the shaft also, and the third was a subperiosteal sarcoma of the shaft showing myxomatous degeneration. In reviewing the literature of sarcomata of the long bones at that time, the opinion of Butlin, Warren, Sutton, and others was that amputation in the continuity of the bone was not wise, because of the greater probability of recurrence. Dr. Fisk said that in his three cases no recurrence *in situ* occurred.

Dr. George Woolsey mentioned two cases of sarcoma of the parts about the humerus, not originating from the bone, in which an interscapular-thoracic amputation was done. In one, a large ulcerating recurrent sarcoma, the operation proved fatal, and in the other there was a recurrence in the nerves of the brachial plexus. In that case the tumor had originated in the nerves of the upper arm and amputation did not prevent a prompt recurrence.

GASTRECTOMY FOR CANCER OF POSTERIOR WALL OF STOMACH.

Dr. Willy Meyer presented a woman, forty-four years old, who was admitted to the German Hospital on September 22, 1903. About a year before entering the hospital she first began to complain of distress and oppression in the region of the stomach, coming on shortly after eating. These symptoms could be relieved

by enforced vomiting. For the past four or five months she had to restrict her diet, and had lost much in weight and strength. She had had occasional attacks of vomiting, but the vomitus had never contained any coffee-ground-like matter. Recently, her gastric pain had increased in severity, and always came on after eating.

Upon admission to the hospital, the stomach contents were tested. Before the Ewald test meal, no free hydrochloric nor lactic acid was present; after, hydrochloric acid equal 35, lactic acid again absent. Microscopically, blood was found both before and after the meal. On the day following her admission, she had a bloody stool, evidently from a hæmorrhage in the stomach.

The case was regarded as one of gastric ulcer, and the patient was given nutritive enemata and rest. Under this treatment there was apparent improvement, and feeding by the mouth was soon resumed. Within a month after her admission she had gained five pounds in weight, and her general condition had improved so much that she returned to her home. A month later, after a rather hearty dinner, she had an attack of gastric pain, and subsequently vomited a dark-brown fluid. A few days later she had two similar attacks, vomiting coffee-ground-like matter.

The patient was readmitted to the hospital on December 7, 1903, and a careful physical examination again gave negative results. No definite tumor could be felt, although there was a sense of resistance in the epigastrium. An examination of the stomach contents showed a trace of lactic acid and a diminished amount of free hydrochloric acid after a test meal. The gain in weight made during the patient's previous stay in the hospital had been lost, and her gastric symptoms were worse.

An exploratory operation was done on December 10, the stomach being exposed through a small median incision. Its anterior wall was apparently normal, but on the posterior aspect of the stomach a tumor was felt, and there were many enlarged glands along the lesser and greater curvature. Resection of the stomach was done, after primary ligation of the major and minor omentum, including the glands, by mass ligatures. The removal of the stomach was very extensive, including more than the distal two-thirds of the lesser curvature, and at least as much of the greater curvature. The stomach was not at all enlarged, and the section that was left next to the cardia, therefore, was extremely small. After

closure of the stomach and duodenum the operation was completed by doing a posterior gastro-enterostomy by means of a Murphy button. No additional sutures. Had it not been for the two retention sutures, which had been left long, this part of the operation could not have been done, except by adding the osteoplastic operation on the costal arch, to be described farther on. The button was the only means of making the anastomosis. Suture as well as elastic ligature was out of question on account of the small portion of the stomach left and lack of room.

The wound closed by primary union, and since the operation the patient had gained steadily in weight and strength, in spite of the fact that perhaps only one-quarter of her stomach was left. The button was never found, although it was probably passed and overlooked in the stools, as the X-rays had failed to locate it in the body. The specimen shows a large, round, infiltrating carcinoma in the middle of the posterior wall of the stomach.

RESECTION OF STOMACH.

DR. WILLY MEYER presented a man, fifty-six years old. A year before admission he first began to have pain after eating his evening meal; the pain was accompanied by belching, but no vomiting. During the past five months the pain had become more severe and followed each meal; it persisted for a few hours and then disappeared. He had lost considerably in weight, and was markedly emaciated and anæmic.

An examination of the abdomen showed a mass in the left hypochondrium extending from below the border of the ribs downward and to the right to about the middle line; it was freely movable, not tender. Free hydrochloric acid was present both before and after a test meal, while lactic acid was entirely absent.

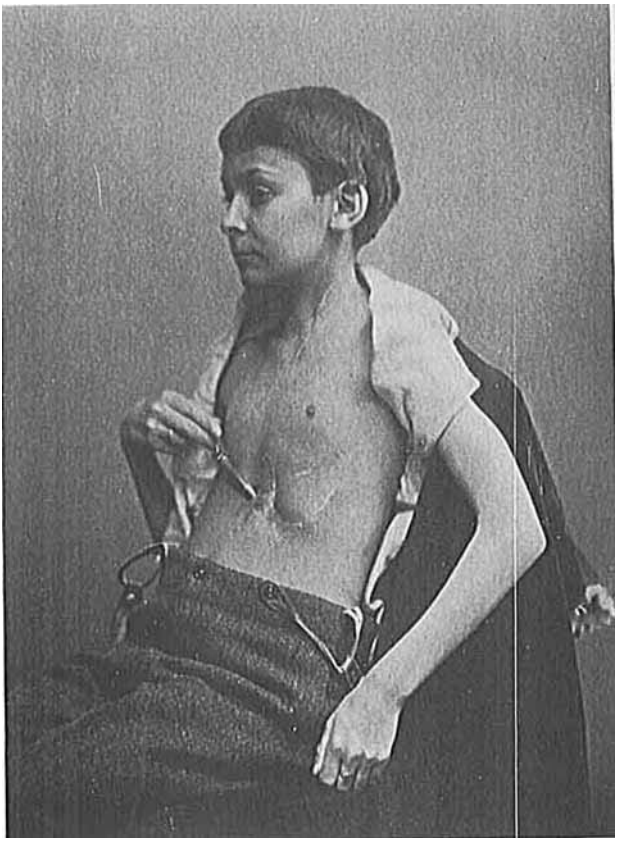
A resection of the stomach was done at the German Hospital on May 25, 1903, by Professor von Mikulicz, who was then visiting this country. After a preliminary extirpation of the umbilicus, the stomach was exposed through a median incision, and a movable tumor was found involving the pylorus and a considerable section of the adjacent stomach wall. After ligation of the major and lesser omentum, the stomach wall was clamped and resected at its proximal and distal extremities. The large stomach wound was then narrowed down by a continuous, convergently running

silk suture to a caliber corresponding to the cut surface of the duodenum, which was kept, unclamped, exposed to view upon a compress of aseptic gauze. End-to-end anastomosis was then done with Murphy's button. The operation illustrated Billroth's operation No. 1. The duration of the operation was less than fifty minutes. The patient made an uneventful recovery, and, the button being passed on the sixteenth day, was discharged from the hospital on June 20. Since then he had gained twenty-five pounds in weight, and thus far had shown no evidences of a recurrence. The pathologist reported that the growth removed was a carcinoma.

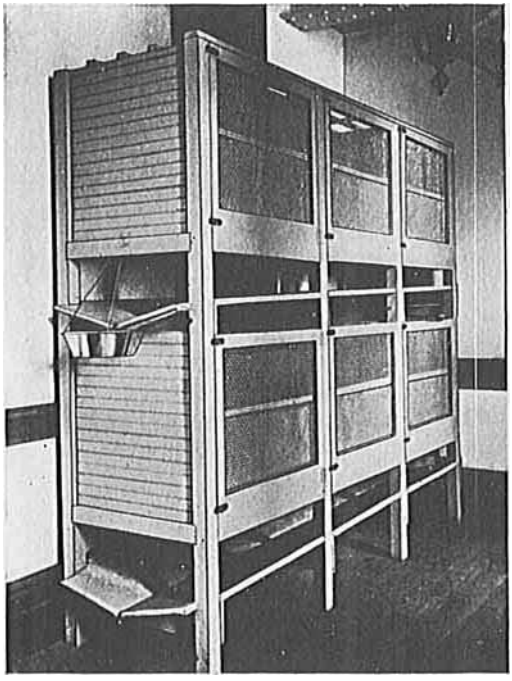
OSTEOPLASTIC GASTROTOMY FOR IMPERMEABLE CICATRICIAL STRICTURE OF THE ŒSOPHAGUS.

DR. WILLY MEYER presented a boy, fourteen years old, who in February, 1896, swallowed a large quantity of caustic lye by mistake. This produced a stricture of the œsophagus, and the following April he was admitted to Mount Sinai Hospital, where Dr. Gerster performed gastrotomy and divided the stricture by Abbe's string method at the same sitting with such good success that the boy was soon again able to take food by way of the mouth. At the end of a year, however, the stricture had reformed, when the late Dr. Van Arsdale established a permanent gastric fistula according to Witzel's method. For the following eight years the boy was fed entirely through his gastrotomy wound. In September, 1903, the patient was admitted to the German Hospital, where it was found impossible to introduce any instrument into the stomach from above. In order to facilitate this procedure, Dr. Torek established an œsophageal lip-fistula.

When Dr. Meyer first saw the patient on September 21, 1903, it was impossible to pass even a filiform bougie into the stomach. At various times the cystoscope was introduced into the stomach through the gastrotomy wound, and attempts were made to locate the cardia, but without success. Kelly's cystoscopic tube was then introduced through the wound in the œsophagus, and this revealed a minute opening at the upper end of the stricture, closely resembling in appearance a cervix uteri. Through this small aperture a fine probe entered for a distance of about half an inch. Repeated attempts were made to distend it with fine laminaria tents, and in the course of six or eight weeks he succeeded in pushing down



Present condition of boy after osteoplastic gastrotomy.



Present condition of boy after osteoplastic gastrotomy.

without much force a straight metal probe,—flexible being quickly arrested,—which, when measured after withdrawal on the outside of the chest, should have entered the stomach. Its tip, however, could not be detected in the stomach by means of sounds or the cystoscope, and it was therefore concluded that it must have entered a false passage.

In order to gain better access to the stomach, an osteoplastic gastrotomy, according to Marwedel, was done by Dr. Meyer on December 21, 1903. A U-shaped incision was made, its inner part crossing the cartilages of the ribs; its outer corresponding to the attachments of the cartilages and bones. (See Fig.) The seventh cartilage was then divided in the median line near the sternum, and the ninth and tenth near their union with the rib. This flap was then turned upward, and gave a good view of the upper portion of the stomach, which was very small. In order to avoid soiling the peritoneal cavity, the patient was placed in a pronounced Trendelenburg posture, and the entire subphrenic space around the stomach was carefully packed with aseptic gauze and large gauze sponges. Two silk ligatures were then introduced and the stomach pulled into the wound on the outer side of the gastric fistula; the position of the fistula remaining undisturbed. An incision of about two inches was then made in the stomach, the latter unfolded with sponges on a handle, and a small electric light introduced, such as was employed in operations on the bladder. A careful search was then made for the cardiac orifice, but it could not be found. An irregular-shaped opening was discovered to the left of the fundus, through which a probe could be introduced for a short distance only; at that point it became completely obstructed, and was apparently a false passage, perhaps made by the probe that had been previously introduced from above. After a long search the stomach was temporarily packed, the patient was lowered, and a metal probe introduced from above by means of the Kelly cystoscope. The patient was then again raised, and with the finger in the stomach the lower end of the probe was searched for, but it could not be felt. Evidently, its lower end was in a false passage above the diaphragm. A stout, slender, dressing forceps was then pushed forcibly upward at the point which had been regarded as the probable cardial orifice, cicatricially closed, and gently pressed upward for a distance of from two to four inches and was then opened. Through this artificial opening air was

audibly sucked in with each respiration. Various instruments were then pushed up through this opening, but all of them became obstructed at the same point. A curved director was also introduced from below, but its point failed to meet the probe passed from above. Further attempts were thereupon abandoned. The new incision in the stomach was closed with a double row of silk sutures, and the osteoplastic flap fitted back in its former place, the skin being sutured without drainage. Recovery followed. Feeding by the gastric fistula was begun on the third day. At present the patient is gaining about one-half pound every week. Dr. Meyer said that by raising the osteoplastic flaps he gained beautiful access to the cardia and the diaphragm. As soon as the patient has recovered from the operation, he intends to again raise the chest-flaps, open the stomach close to the cardia, and follow up the blind canal, mentioned above, incising the gastric wall on a grooved director with Paquelin's cautery from within. He still hopes to be able to push a thread through the œsophagus.

Dr. George Woolsey referred to the effect of posterior adhesions in cancer of the stomach on the question of radical operation. In a case where he operated last summer, in which a cancerous growth was suspected but could not be felt, he found that the posterior gastric wall was firmly adherent to the pancreas, and this deterred him from doing a radical operation, as it was a question in his mind whether the result justified it. Von Mikulicz, in his article on the surgery of the pancreas read before the last Congress at Washington, speaks of the large mortality of operations for gastric cancer (70 per cent.), in which posterior adhesions or enlarged lymph nodes involved the pancreas in the operation, as compared with a mortality of 27.5 per cent. in simple cases of resection of the stomach.

GUNSHOT WOUND OF THE ABDOMEN, WITH PERFORATION OF THE STOMACH.

Dr. George E. Brewer presented a negro, aged twenty-one years, who was admitted to the Roosevelt Hospital at midnight on November 8, suffering from a gunshot wound of the abdomen, presumably self-inflicted.

On admission, he presented the evidences of considerable shock; pulse, 104; temperature, 96.4° F. On examination, the

abdomen was somewhat distended; slight tenderness and rigidity over the upper half. About two inches to the right and one inch above the umbilicus there was a small bullet wound through which a probe was easily passed into the abdominal cavity. He was immediately prepared for operation.

Under ether anæsthesia, an incision was made in the median line, extending from a point one inch below the ensiform cartilage to a point two inches below the umbilicus. On opening the peritoneal cavity, there was found a quantity of free fluid and clotted blood. A hasty examination revealed the origin of the blood to be from the neighborhood of the stomach. On freely exposing this organ, an oval, ragged wound was found near the pylorus, through which protruded folds of mucous membrane, which served as a plug, preventing the extravasation of any considerable amount of the contained fluid. The bleeding was found to issue largely from the wounded branch of the pyloric artery.

The wound in the stomach was rapidly united by two layers of Lembert sutures. A search was then made for the wound of exit. The entire anterior surface of the stomach was carefully explored, also the posterior wall, through an opening made in the transverse mesocolon. No wound of exit was found, and careful palpation of the stomach revealed no trace of the bullet within its cavity. The intestine was then examined from the duodenojejunal junction to the rectum, and no further wound discovered. Careful examination of the other viscera and the abdominal parietes failed to reveal the presence of a wound or any mark indicating the course of the bullet.

The entire abdominal cavity was then douched with a large quantity of sterile salt solution and the abdominal wall closed with two cigarette drains. The patient made an uneventful recovery.

DR. STIMSON said he thought it was not uncommon to have a bullet perforate a hollow viscus without emerging from it. The speaker said he had seen two or three instances of this.

UMBILICAL HERNIA.

DR. JOSEPH A. BLAKE presented a woman, thirty-nine years of age, who was operated upon by him, January 25, 1902, for umbilical hernia associated with diastasis of the recti abdominales, following multiple pregnancies. The patient weighed 212 pounds;

the abdomen was pendulous; the separation of the recti before operation was apparently six inches, although at the operation it was found to be only two and one-half inches. The hernial sac was three inches in diameter, its neck one inch, and its contents adherent.

The operation consisted in the excision of a vertical ellipse of skin and fat twelve inches long and six inches wide; the incision of the linea alba for the same distance, the excision of most of the sac, and the overlapping of the muscular and aponeurotic portions of the abdominal wall for a distance of three and one-half inches.

Dr. Blake presented a second patient, aged thirty-six years, who was operated upon February 1, 1901, for umbilical and ventral hernia of two years' standing, recurring after an operation five years previously for umbilical hernia.

At the operation the sac was found to measure six inches vertically by five inches transversely, while its neck was two inches wide and four inches long; the recti abdominales were separated two inches. The contents of the sac were adherent, and the linea alba consisted, practically, of scar tissue only.

An ellipse of skin and fat twelve by four inches was excised, the linea alba slit for three inches in addition to the hernial opening, and the aponeurotic tissue and muscles lapped two inches with great tension, inasmuch as the muscles had regained their tone and shortened on account of the size of the protrusion.

A third patient was also presented, aged thirty-two years, who was operated upon October 21, 1902, for umbilical hernia with diastasis of the recti of two years' standing.

The sac measured three inches in diameter, the ring one inch, its contents were irreducible omentum. The recti were separated two inches.

The operation consisted in the excision of a vertical ellipse of skin and fat ten inches long by four wide, and the overlapping of the muscular and aponeurotic tissues for a distance of two inches.

These cases were selected at random from a number that he had operated upon by this method during the last four years.

Two of them were primary operations, and there has been no relapse. One of them had had a previous operation and the

overlapping was difficult and unsatisfactory. She has a small relapse at the middle of the wound.

They all express themselves as relieved of their symptoms.

DR. CHARLES N. DOWD said that since Dr. Blake had described his method of treating these cases of umbilical hernia, he had resorted to it twice with excellent results. Both cases were women of rather advanced age; the herniæ were of considerable size, and in both very firm apposition of the abdominal walls was secured. In one of the cases a year had elapsed since the operation, and in the other only three or four months. Thus far there were no evidences of a recurrence.

DR. BREWER said he had followed Dr. Blake's method in six cases. The last patient was a woman of enormous size, weighing over 300 pounds. In that case a seventeen-inch incision was necessary, and after cutting away all the thin, cicatricial tissue, such a large space was left that it required a great deal of strength to overlap the two sections of the abdominal wall. The operation was followed by temporary dyspnœa, probably the result of pressure, but this gradually disappeared. The patient was kept under observation for several months, and when she was last seen there were no signs of a recurrence.

DR. STIMSON said he supposed the condition demanding operation in these cases was a diastasis of the abdominal muscles rather than the hernia itself. The speaker said that in a few cases during the past winter he had employed a method suggested by some one whose name he could not recall. It consisted in closing the hernial orifice by a transverse line of union, which would not be so exposed as a longitudinal one to separation by the pull of the lateral muscles.

DR. CHARLES H. PECK said he had employed Dr. Blake's method in one case of umbilical hernia, with considerable separation of the recti, with excellent result. It was still too recent, however, to speak of the ultimate result in that case.

DR. WOOLSEY said he had also found the overlapping method useful in all cases of ventral hernia, whether in the median line or elsewhere in the abdomen. Of course, it was not always possible to overlap the muscular layers much. For several years it had been his practice to modify the Bassini method for inguinal hernia by overlapping the aponeurosis of the external oblique.

DR. BLAKE said he preferred the method of perpendicular, *i.e.*, from below upward, overlapping of the abdominal muscles in cases of umbilical hernia without much diastasis; in the other class of cases, in which the hernia was accompanied with marked separation of the muscles, he thought the transverse, *i.e.*, side to side, operation was better. The typical Mayo operation consisted of the perpendicular overlapping. One objection to the transverse method was that it sometimes required much strain to overlap the muscles, and was apt to interfere with the patient's respiration. On the other hand, it was of the greatest benefit in those cases in which the abdominal walls were lax, particularly when associated with enteroptosis.

SOME OBSERVATIONS ON THE EFFECTS PRODUCED ON THE SKIN BY THE DISCHARGE OF SMALL-ARMS LOADED WITH SMOKELESS POWDER.

DR. ALEXANDER B. JOHNSON read a paper with the above title, for which see page 798.

DR. BLAKE said that in an explosion of gunpowder, the active principle, composed largely of nitrites, was burned up and dissipated as gas, while the non-active constituents, such as saw-dust, etc., composed the residue. The speaker said that in the early days of smokeless powder he had noticed that after a discharge against the wind some of the residue was blown back into the marksman's face, but that since the old wood powder had been superseded by the improved nitro powders, this was not noticeable. Consequently, it seemed to him that a relative estimation of the powder staining by different brands might be of value from a medicolegal stand-point.

DR. FISK said that in June last he saw in consultation a patient who had been shot accidentally in the left shoulder. The pistol, which was of .32-caliber, was discharged at close range; the distance was probably not more than three feet. There was not the faintest trace of powder marks or smudge upon the skin. The bullet entered the shoulder directly over the head of the humerus, passed inward and backward through the head of the bone, making a perfectly clean hole without the slightest splintering of the bone. There was no wound of exit. An incision was made on the posterior surface of the shoulder; the fibres of the muscles were carefully separated and retracted until the capsule

of the joint was reached, through which it was possible to feel the point of a director which had been passed along the track of the bullet through the head of the bone. Directly beneath this was felt the bullet. An incision through the capsule readily exposed the bullet, which was easily extracted by forceps. The incisions, both front and back, were sutured, excepting where small drainage wicks were inserted. Convalescence was without moment, and perfect functional use of the joint was obtained.

Stated Meeting, February 10, 1904.

The Vice-President, GEORGE WOOLSEY, M.D., in the Chair.

HYPOSPADIAS; PLASTIC OPERATION.

DR. B. FARQUHAR CURTIS presented a boy of ten years, who, when he was first seen by Dr. Curtis, six years ago, had almost a complete hypospadias of the scrotal type, the opening of the meatus being at the posterior edge of the scrotum. The penis was bent and of minute size, and, in order to give it a chance to develop, the primary operation consisted simply of cutting it loose from the scrotum with suture of the wound. When the boy was again seen, six years later, he had a fairly well-developed penis, and on September 8, 1903, the hypospadias was operated on by the Szymanowsky method. The operation was done at two sittings, the first forming the membranous and glandular portions of the urethra. After the first operation the old meatus was left open and the bladder drained through it. The second operation was done to close the old meatus by a small flap. Drainage of the bladder was maintained by a catheter in a perineal boutonnière at the second operation. At the junction of the two flaps a small fistula remained, and in order to close it several applications of caustic were necessary. All the wounds have now healed.

A second patient was also shown by Dr. Curtis, a boy of twelve years, in whom there had been a hypospadias of the penile

type. The Szymanowsky method was followed, and the result, as in the first case, was excellent. The first operation was done on September 5, 1903, when he succeeded in making a good bridge across the glans and part of the penile portion; but there remained a gap between the edge of the flap and the former meatus. This defect was closed about a month later, the tissue being obtained from the redundant dorsal foreskin. The foreskin was button-holed at its base and the glans thrust through the opening and the skin sutured to the edges of the gap. Sutures had to be applied several times, and finally he secured complete union with the exception of some pinhole openings, which contracted after cauterization. Perineal drainage by catheter was established for the first two operations.

Dr. Curtis said the chief difficulties he had met with in doing this operation were not with the flaps, but in closing the old meatus or gaps left between two flaps. He called attention to the necessity for perineal drainage by catheter in order to get a good result. He regarded this method as superior to drainage by catheter through the urethra, and there was less danger of infection than when the use of the catheter was omitted altogether. He admitted that the use of the perineal catheter was not a perfect method of drainage, as it did not prevent the leakage of urine, but it gave better results than any other method in his experience. In adults, where more careful attention to cleanliness could be expected, the use of the catheter could perhaps be dispensed with.

Dr. Curtis, in reply to a question as to what age limit he would establish in doing this operation, said he had never operated much under ten years, certainly not under eight. The preliminary operation of freeing the penis, however, should be done as early as possible, so as to give that organ an opportunity to develop. He did not think it worth while to operate at a very early age for the relief of the hypospadias itself.

Dr. Woolsey reported a case of complete hypospadias in a ranchman from Colorado who was over fifty years old, and who had concealed his deformity up to that age. The Szymanowsky operation was done in this case, which illustrated the difficulty in connecting the perineal opening with the posterior end of the new-formed urethra. This seemed to be due to the insufficient caliber of the new-formed urethra, causing pressure at the point

of union. Hence an Otis urethrotome was finally introduced, and, after dividing the newly-formed urethra as if strictured and the subsequent use of sounds, the union of the newly-formed urethra and the anterior end of the original urethra in the perineum was successful.

BENIGN TUMOR OF THE PYLORUS; GASTRO-ENTEROSTOMY.

DR. F. KAMMERER presented a woman, about fifty years old, who came under his observation almost two years ago with the diagnosis of cancer of the pylorus. A distinct, movable tumor could be felt at the site of the pylorus, and the examination of the gastric contents seemed to point towards malignant disease. The woman had lost much in flesh and strength, and at the time of the operation she weighed 105 pounds. Upon opening the abdomen he found a hard, nodular tumor involving the pylorus. It was freely movable, but the patient's condition was such that the removal of the growth was deemed inadvisable. A simple posterior gastro-enterostomy was done with the Murphy button, according to the Carle and Fantino method. No Lembert sutures were used, and an additional entero-enterostomy was not considered necessary. The patient made an uneventful recovery from the operation. The button was passed on fourteenth day. Since then she had remained in excellent health and gained over fifty pounds in weight, thus proving that the pyloric tumor was of benign origin. The growth itself had apparently disappeared. The patient had never suffered from symptoms of regurgitation since the operation.

Dr. Kammerer said his main reason in showing this case was that it again gave him an opportunity to advocate the superiority of posterior gastro-enterostomy by the Carle-Fantino method. He had never seen this operation followed by any symptoms of regurgitation, although an additional entero-enterostomy had never been done. In only one of his cases did the button fall back into the stomach. He believed the method was the quickest way yet devised for the performance of posterior gastro-enterostomy. He thought that the presence of the button might have something to do with the prevention of regurgitation, as it did not allow the formation of a spur at the site of the anastomosis.

POSTERIOR GASTRO-ENTEROSTOMY.

DR. ALEXANDER B. JOHNSON presented a man, thirty-one years old, who came under his observation last September, complaining of gastric symptoms which dated back to the previous November. He had a fixed and more or less continuous pain located to the right of the middle line, and representing fairly well the location of the pyloric end of the stomach. In addition to the pain, he had daily attacks of vomiting, the vomitus consisting principally of food; he had never vomited any blood. As a result of his illness, his nutrition had suffered greatly, and when he came to the hospital he was much emaciated, weighing only about ninety pounds. A blood examination made at that time showed about 40 per cent. of hæmoglobin.

Upon opening the abdomen, the pyloric end of the stomach and the first portion of the duodenum were found surrounded by and embedded in organized adhesions, evidently the result of a preceding localized peritonitis. These adhesions had produced quite a sharp kink at the junction of the pylorus and stomach.

On account of the presence of the dense adhesions, Dr. Johnson said he concluded to do a posterior gastro-enterostomy. The stomach was pulled down to the slit in the transverse mesocolon and fastened there. A Murphy button of medium size was then inserted into the jejunum and an anastomosis made, perhaps eight inches from the end of the loop, into which finally a larger button was inserted, the other half being inserted into the stomach wall.

With the exception of one or two attacks of vomiting after the operation, the patient made an uneventful recovery. The smaller button was passed soon after the operation, and the larger one on the fifty-third day. The patient's weight had increased over forty pounds, and he had no symptoms at all referable to the stomach.

ILEOCÆCAL RESECTION FOR TUBERCULOSIS.

DR. KAMMERER presented a man, twenty-nine years old, who came to the German Hospital last December with the symptoms of gradually increasing stenosis of the intestine during the preceding eighteen months. Every day he had typical paroxysms, about half a dozen in number, during which peristaltic movements were visible on the abdominal wall. In the ileocæcal region

a fairly movable tumor could be made out. A physical examination of the chest showed involvement of the right lung, and tubercle bacilli were found in the sputum. The patient was greatly emaciated.

December 21, 1903, the abdomen was opened, a six-inch incision being made to the outside of the semilunar line, somewhat similar to McBurney's incision for suppurative appendicitis. A typical tubercular tumor involving the ileocæcal region was found, and, in resecting the gut, Dr. Kammerer said he followed the method that he had observed last summer in Koerte's clinic in Berlin. He first incised the peritoneum lining the outside of the mesentery, and then, after clamping the intestine and raising it within the abdominal cavity, he tied off the mesentery with a number of sutures, finally cutting through the intestinal wall. He then implanted the end of the ileum into the transverse colon with Murphy's button. The excised portion of the gut included nine inches of the ileum and the entire ascending colon, excepting one and one-half inches at the hepatic flexure. The intestines in the region operated on were the seat of a miliary eruption, which on the ileum extended beyond the point at which the latter had been divided. The speaker said he followed Koerte's plan of closing the wound entirely, and making a counter-opening above the ileum, into which a drainage tube and small piece of gauze were inserted. The tube was removed in forty-eight hours and the gauze three or four days later. The wound healed by first intention and the counter-opening closed in two weeks.

Since the operation the patient had gained slightly in weight and had been free from all intestinal symptoms.

FRACTURE OF THE CLAVICLE, WITH RUPTURE OF THE AXILLARY ARTERY AND THE BRACHIAL PLEXUS; AMPUTATION AT THE SHOULDER; RECOVERY.

Dr. Arthur L. Fisk presented a lad of seventeen years, a plumber's helper, who on December 17, 1904, was assisting in hoisting heavy iron sewer-pipe from the second to the seventh story of a building which was in the process of construction, when a length of the pipe fell from the seventh story, striking him upon the left shoulder. He was rendered unconscious for some hours from the blow; an ambulance carried him to one of the large hospitals, where he was treated for a simple fracture

of the clavicle. Late in the evening he was transferred to Trinity Hospital; when seen there, he was still in a condition of shock; the left arm was confined by a Sayre's bandage for fracture of the clavicle. The hand and arm were so swollen, and there was so much swelling over the clavicle, that Dr. Kenyon, who saw the case, considered that it was best to remove the adhesive straps and to confine the arm simply by a lightly applied Velpeau bandage. On the following day, Dr. Fisk found upon examination extensive ecchymosis and swelling over the supraclavicular region. There was no pulsation in this swelling. It was impossible to define the outlines of the clavicle except at the acromial end; the middle portion of the clavicle appeared to have been driven downward, inward, and backward. There was a complete sensory and motor paralysis of the hand and forearm, and complete motor paralysis of the arms, but sensation existed in the skin throughout the upper portion of the arm, though somewhat diminished, especially posteriorly. The hand and forearm were œdematous, the color slightly cyanotic, especially in the nails; however, the circulation seemed to be fair. No pulsation could be detected in either the radial or the brachial arteries. The left pupil was contracted and did not respond to light. There was slight aphonia, and a great deal of pain in the forearm. Pressure over the site of the clavicle caused pain, which was referred to the fingers. The diagnosis of fracture of the clavicle with probable rupture of the axillary artery, and either rupture or severe contusion of the brachial plexus, was made. The serious nature of the injury was explained to the patient, also the surgical measures which would in all probability be necessary. He requested to be permitted to confer with his relatives before giving his consent. The treatment instituted was to swathe the limb in cotton, then bandage it, and elevate it upon pillows. A hard pillow was placed beneath the middle of the back in order to permit the shoulder to fall backward, in which position the circulation in the hand and arm improved decidedly, the cyanosis disappearing entirely, even in the finger-nails, which suggested that the symptoms were due possibly to compression of the artery and nerves against the rib, and not to rupture of them. On December 18 the tip of the little finger showed evidence of dry gangrene, so that longer delay was considered inadvisable. On December 19 an incision was made along the

posterior border of the sternomastoid muscle down to the clavicle, then outward to the acromioclavicular articulation; thus the supraclavicular fossa was opened. The tissues were so contused that it was difficult to recognize the different structures. The clavicle was not depressed; in fact, it seemed to be intact, but in passing the finger along the lower surface a false point of motion was discovered; it was a subperiosteal fracture. This was made a complete fracture; the two ends of the bone were then drawn outward and downward. The axillary artery was found completely torn through at the edges of the first rib. It pulsated distinctly, but there was no hæmorrhage from it. What at first sight appeared to be the distal portion of the artery proved to be the distal ends of the brachial plexus very much contused and swollen. The artery was ligated in its second portion. The proximal ends of four of the roots of the brachial plexus were found between the scaleni muscles; these were refreshened, also the distal ends, and the two ends then united by fine catgut. The clavicle was drilled and the ends united by chromicized catgut, and the wound closed. The boy stood the operation well. On December 23 his temperature rose to 104° F.; the ulnar surface of the hand and forearm became gangrenous, so that on December 24 amputation at the shoulder-joint was done. Convalescence from this time forth was uninterrupted.

Dr. Woolsey said he had at present under observation at Bellevue Hospital a patient who had a complete rupture of the brachial plexus without fracture of the clavicle. This was the second case he had seen within two years. In the first case, which was operated on by Dr. A. J. McCosh, a cord-like mass was found occupying the usual location of the brachial plexus, and nothing could be done in the way of treatment. In one of the cases the injury was produced by a fall from a bicycle; in the other by a fall from a freight-car. In neither case was the clavicle fractured.

Dr. Curtis thought the most remarkable feature of Dr. Fisk's case was the spontaneous cessation of hæmorrhage after the rupture of such a large artery as the subclavian.

Dr. Fisk said he could not explain that feature of the case. He had expected to find a large blood-clot, but simply found a contused condition of the muscles and fascia. The force of the blow was evidently so great that the coats of the artery had been crushed through completely, thus allowing the inner coats to

retract and occlude the lumen of the vessel, thus preventing any hæmorrhage.

In injuries of the limbs, especially railroad traumatisms, where the tissues were crushed off rather than cut off, similar conditions had been observed. It is the principle of the angiotribe.

RUPTURE OF THE URETHRA.

Dr. John A. Hartwell presented a man, twenty-six years old, who was admitted to the Lincoln Hospital on June 28, 1903, with the history that an hour previous to his admission, while at work in the subway, he was struck in the region of the right hip and thigh by a heavy dirt-bucket, which knocked him down. On admission he was in a condition of mild shock, and an examination showed copious bleeding from the urethra. A catheter easily entered the bladder and drew off several ounces of blood and urine. Eight ounces of normal saline solution were then injected into the bladder, and the entire quantity was returned with bloody discoloration. From that time on he had no trouble with micturition. External evidence of the injury was limited to an ecchymosis in the perineum. The hæmaturia ceased entirely after twenty-four hours.

Upon admission, the patient's temperature was 100° F.; pulse, 100; respirations, 24. During the following five days the temperature gradually rose to 103.5° F., with a moderate intermission each day, but a steady rise over that of the preceding day. He showed a typical typhoid condition, and the Board of Health reported a positive Widal reaction with a 1 to 20 blood dilution.

During these five days, all the symptoms referable to the urinary apparatus had subsided, and there was no evidence of any urinary extravasation or collection of pus, though such a condition was suspected, and repeated examinations were made with this possibility in mind. On the seventh day, however, he for the first time complained of pain on deep perineal pressure and on pressure into the pelvis above Poupart's ligament on the right side. He was anæsthetized and an incision made at the latter point, where deep palpation seemed to show a fluid collection. A hæmatoma occupying the iliac fossa was evacuated. A half-inch rent was found in the bladder, just above the neck, and a second one through the posterior layer of the triangular liga-

ment and the membranous urethra. No evidence of pelvic fracture could be found. External urethrotomy was performed and the bladder drained in this way, while the cavity of the hæmatoma was drained from above. No sutures were used either in the bladder rent nor in the urethral tear.

The man's temperature ran a septic course for some weeks and then became normal, and in about eight weeks the wounds had healed and urination was completely normal.

About three weeks after the injury he first complained of pain in the left hip, and there was restricted motion in this joint. On his discharge, this condition persisted, and he had a decided limp. He returned to the hospital four months later, complaining of pain in the hæmatoma cavity, and a small discharging sinus was found at the site of the primary incision. This was opened and explored. No bone involvement was found and the sinus promptly healed. Urination to-day is normal and the urethra admits a No. 28 French sound with little difficulty. There is decided limitation of motion in the hip-joint, together with two inches' atrophy of the thigh muscles and one inch shortening of the extremity. There is no spontaneous pain excepting at night, but passive and active movements cause pain. He walks with the characteristic limp of hip-joint disease. The temperature remains normal.

DR. JOHNSON said that some years ago, at Roosevelt Hospital, he had a case almost identical to the one shown by Dr. Hartwell. The patient returned to the hospital a year after the original injury with a necrosis of the descending ramus of the pubes and the ascending ramus of the ischium. The speaker said it had occurred to him that possibly some bone infection or inflammation had taken place in Dr. Hartwell's case.

DR. HARTWELL said that when the man returned to the hospital with a discharging sinus four months after the receipt of his injury, the presence of dead bone was suspected, but none was found after a very careful examination.

THE RADICAL CURE OF FEMORAL HERNIA.

DR. FRED KAMMERER read a paper with the above title, for which see page 982.

DR. CURTIS said that his experience with the treatment of femoral hernia had been limited to the purse-string method.

Among eighteen cases, he had been able to follow only three or four for some years, and in these there had been no recurrence. In one of them there had been no recurrence after ten years, and another went through a subsequent pregnancy without a recurrence.

In cases where the hernia was a large one, with a good-sized femoral ring, the speaker thought it was generally quite easy to retract the edges of the opening, so as to introduce the first purse-string suture well inside and get a flush internal opening. The weakness of the purse-string method was in the direction of the vein, and when the femoral opening was small and the parts rigid the method was very unsatisfactory. Under those conditions the tightening of the suture did not bring the upper parts firmly in contact with the pectineus muscle, and he recalled two or three such cases where the prospect of a recurrence seemed very likely.

In operations for femoral hernia, the treatment of the sac was very important. The speaker said that in his earlier cases he pressed up and reflected the sac well up above the femoral ring by a suture passed as in McEwen's method, but more recently he had adopted Kocher's method of dragging the stump of the sac through the abdominal wall well up above the level of Poupart's ligament. In two or three instances where the hernia was strangulated he had been obliged to divide Poupart's ligament ("herniolaparotomy"), but he always hesitated to resort to this procedure, as it seemed to weaken the strongest bulwark against abdominal pressure. He did not regard the routine division of Poupart's ligament as a sound surgical procedure. Ordinarily, femoral hernia was a very easy condition to cure, and he considered simple methods preferable to complicated ones.

Dr. Otto G. T. Kiliani said the weakness of the Lotheissen method in the direction of the vein, to which Dr. Curtis had referred, was overcome by the Fabricius method, but the latter could not be employed in cases where there was a large femoral ring.

Dr. Kammerer said he had found it very easy, after exposing the femoral vein, to pull it aside with the aid of a blunt retractor, and then insert the suture. The muscle could be pulled down towards Cooper's ligament as far as it was deemed necessary.

The speaker said he only advised division of Poupart's ligament in cases where the hernia was strangulated. He was aware that femoral hernia could generally be cured by simple ligation of the sac and skin suture, but there were certain cases in which recurrences took place, and he thought that the method of operation should be chosen which promised to give the most certain result.

DR. CURTIS said he thought the weak spot in these cases would always be in the direction of the vein, and this was not remedied by suturing Poupart's ligament to the pectineus fascia.

URETER IN AN INGUINAL HERNIA.

DR. HARTWELL exhibited a speciment of a hydronephrosis with ureter attached, stating that the patient from whom the specimen was removed was a man, sixty-two years old, who was operated on by Dr. Hartwell in January, 1898, for a right inguinal hernia, which had existed for several years and had been irreducible for one year. The hernial tumor was very large, measuring eight by five inches when the patient was in the recumbent posture. When the patient was in the upright position, the bottom of the scrotum reached to the middle of the thigh, rendering locomotion almost impossible.

An incision about six inches long was made over the inguinal canal and down over the scrotal tumor, dividing the skin and fasciæ down to the sac. The tissues were then separated from this without trouble anteriorly and on the lateral aspects, but posteriorly the adhesions were very firm and the intestine was uncovered by peritoneum, the colon and cæcum making the sac wall in this part. The hernial contents were the cæcum, the appendix, a foot of the colon, and ten inches of small intestine. Lying behind and outside the hernia proper, but inside the scrotum, was a round, firm cord, in which a lumen could be made out. It was half an inch in diameter, and the portion in the scrotum was about six inches long. It lay in the shape of a loop, with the convexity downward, and the two ends passing behind the neck of the hernia into the pelvis. Its course could not be traced beyond this point, and its nature was uncertain, a prolapsed ureter and a dilated vein being considered possibilities.

On account of the dense adhesions, the hernial operation took a long time, and upon its completion the loop of cord men-

tioned was pushed up behind the peritoneum and left there. The patient's condition was fair at the end of the operation, and he apparently reacted well. At the end of twelve hours, however, he began to fail rapidly, and died a few hours later, the cause of death being the shock from the prolonged handling of such a mass of intestine, and the intolerance of the abdominal cavity for it when it was returned.

At the autopsy, the unidentified cord proved to be a ureter prolapsed in a loop into the scrotum behind the peritoneum,—probably pulled there by the colon in its descent, the hernia being of the so-called "gliding" variety. The kidney from which this ureter descended was found to be the seat of a large hydronephrosis, the position of the ureter acting as an obstruction to the outflow of urine. This obstruction was probably intermittent, because on straightening the ureter the urine flowed freely into the bladder.

Dr. Hartwell said that the only similar case he could find on record was reported by von Bergmann in his surgery.

NEPHRECTOMY FOR RENAL CALCULI.

Dr. Charles H. Peck presented specimens removed from a girl, seventeen years old, who was admitted to Roosevelt Hospital on February 1, 1904, with the following history: Family and previous personal history unimportant; no history of scarlet fever. Present illness; three months ago had a slight attack of pain on right side, lasting about a week, varying in severity, sometimes shooting into the groin, down the thigh or across the small of the back; she was then free from trouble until two weeks ago, when the pain returned. It began suddenly, growing gradually worse, and for two days it was so severe as to prevent sleep; it then disappeared and returned a week ago, and has continued remittent ever since. During the attacks of pain she has increased frequency of micturition, four or five times at night, and oftener during the day, with some pain. Urine has never been bloody. Patient has to support the right side on standing and cannot lie on left side, as it causes pain. No fever nor sweating. Has never been confined to bed by pain; has lost six or eight pounds in weight during the last six months. Upon admission, the temperature was 99.4° F.; respirations, 24; pulse, 116. Urine, turbid;

specific gravity, 1014; markedly alkaline; no sugar; considerable pus and triple phosphate.

Examination showed a sensitive mass in right lumbar region, apparently the right kidney, somewhat low in position but not much enlarged. It was distinctly tender on palpation. An attempt to catheterize the ureters under local anæsthesia failed on account of the hyperæsthetic condition of the patient. X-ray photographs show what were apparently four stones in the right kidney. Two plates were taken, with exposures of seven seconds and fourteen seconds, respectively, both showing the four shadows distinctly.

Operation, February 6, by Dr. Robert F. Weir. The kidney was somewhat adherent to the perirenal tissue. It was brought into the wound, covered with sterile gauze, and with a portable coil a fluoroscopic view of the stones was quickly obtained. As the kidney seemed atrophied, the cortex thinned, and the stones large, it was decided to remove it, and nephrectomy was performed.

Dr. L. G. Cole, who had taken the X-ray photographs and fluoroscopic pictures in the case reported by Dr. Peck, called attention to the very short exposures of the two plates, one having been exposed only seven seconds and the other seventeen seconds, and both showed the shadows of the foreign bodies in the kidney very distinctly. He attributed the good results of the short exposures in this case to the use of the low vacuum tube, which he considered preferable to the use of a tube of high vacuum, especially in searching for stones in the kidney. He also spoke of the value of concentrating a large fluoroscopic picture upon a small plate in order to bring out the outlines more distinctly.

FOREIGN BODY IN THE BRONCHUS.

Dr. Otto G. T. Kiliani showed a scarf-pin which he had removed from the bronchus of a school-boy. The history of the case was as follows: On January 14, 1904, about six o'clock in the evening, the boy had found the scarf-pin on the floor. It belonged to one of his schoolmates, but in a spirit of fun he refused to give it up, and put it in his mouth, head first. The owner thereupon grasped the boy by the nose; this caused him to gasp, and the pin disappeared down his throat. Two hours later the accident was reported to the head-master of the school,

and the following morning the patient came to New York and was admitted to the German Hospital. During his journey he had several fits of coughing and raised some blood-stained mucus.

January 15. A laryngoscopic examination revealed the scarf-pin between the vocal cords and the trachea.

January 17. Pin could no longer be seen with the laryngoscope. Lungs and heart negative. X-ray photograph negative.

January 19. Dr. Kiliani performed tracheotomy. As soon as the trachea was opened the patient had a violent fit of coughing and the point of the pin appeared in the wound, but disappeared again before it could be grasped. A few moments later the pin was again coughed into the opening and was seized and removed. A tracheotomy tube was inserted. This was removed two days later. There was slight suppuration, but the wound had closed entirely by January 30, and the patient was discharged cured.

Dr. Kammerer said that less than a year ago he saw a child of five years who had aspirated a small metal horse. Laryngoscopic examination showed that the toy had become fixed between the vocal cords, with the hind feet above the entrance to the larynx. Under narcosis, an effort was made to extract the toy through the mouth, but this proved unsuccessful, it being so firmly caught between the vocal cords. Through a tracheal opening the head of the horse was then grasped, but it could not be delivered without fear of injuring the cords. The cricoid cartilage was thereupon split, but even then the toy could not be safely extracted, and it was not until the thyroid cartilage had been divided in the median line that it could be removed.